

Heba Omar Selim

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<https://scholar.google.com/citations?hl=ar&user=Ys7mowAAAAJ>

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EDUCATION

University of Port Said

Port Said, Egypt

Ph.D. Student in Engineering in Communication and Electronics Engineering

Aug 2020

- Finished Pre-Ph.D Courses Grade: Excellent
- My research area in free space optics communication

University of Port Said

Port Said, Egypt

MSc. in Engineering in Communication and Electronics Engineering

Jan2013-March 2019.

- Pre-Master Courses Grade: Very Good.
- **Research Area:** My work focuses on spectrum sensing in cognitive radio network where I have developed a system that is capable to utilize the spectrum sensing to achieve the best utilization of the channel.
- **Brief Summary of my work:** A reliable and simple analytical expressions for the mean and variance of the Probability Density Function (PDF) of the MTM spectrum detector are derived. Then, closed-form expressions for the detection of false alarm probabilities for the MTM spectrum detector have been obtained. Intensive simulation-based work has been conducted under AWGN channel using MATLAB to confirm and evaluate the proposed theoretical study.

MET Academy - Misr Higher Institute for Engineering & Technology

Mansoura, Egypt

B.Sc. in Engineering in Communication and Electronics Engineering

2007-June 2011

- Graduation Year Grade: Excellent (91.89%).
- Cumulative Grade: Excellent with Honor (85.85%).
- Graduation Project: Local Network CDMA **Project Grade: Excellent**
- Major : Telecommunication (Courses Included)
 - Mathematics, Physics, Software Applications, Electronics, Mathematics, Electrical circuit Logical circuit, Programming(visual basic), UML, Mathematics, Signal processing, Visual basic.Net, Computer organizer, Computer architecture , Electromagnetic , Analog Communication , Digital communication, Microwave , IC Integrated Circuit , Electronic circuit, Network, Antenna, Network Security, Microprocessor, Signal processing, Digital communication, Industrial electronic, Image processing, Advanced digital electronic circuit, Optical fiber .
- Minor : Administration (Courses Included)
 - Project management, Writing a Report, Economics, Chemistry, Production Engineering, Human Behavior, English, Mechanics, Engineering drawing, Engineering Low, Civil & Mechanical, Measurement device, Power and machine Control.

Alazhar High School

Damietta, Egypt

General Certificate of Secondary Education,

Nov2003-June 2006

1St Grade in school (94.94%)

PUBLICATION

1. Selim H, Soliman H, Dossouki A. "Reliable analytical approach for multi-taper spectrum detection in cognitive radio networks", Port Said Engineering Research Journal, vol. 22, no. 2, pp. 56–63, 2018.
https://pserj.journals.ekb.eg/article_32100_90ff05c5c0ecdfe1ddc2dbbb9e034590.pdf
2. Selim H, Dossouki A, Soliman H. "Verification analysis for the reliable analytical multi-taper detector in next generation network", 2020 Bulletin of Electrical Engineering and Informatics, vol.9, No4. Scopus index: 1.9
<http://beei.org/index.php/EEI/article/view/2229/1513>

3. Selim H, Sebry W. "Cepstrum Multitaper method for Optimal detection of cognitive radio network", Horizon Research Publishing in universal Journal of Electricl and Electronic Engineering, vol7. No2. Scopus index: 0.44

<http://www.hrpub.org/download/20200229/UJEEE5-14914725.pdf>

Google Scholar account: https://scholar.google.com/citations?hl=ar&user=_Ys7mowAAAAJ

REWARD

First Grade at Local Superior Student Competition among high schools 2006

RESEARCH EXPERIENCE

Port Said University, Communication Engineering Department
Research Student

Port Said, Egypt
Jan2014-march2019

- **Summary:**

The real-time hardware implementation complexity of the various existing methods of spectrum sensing for cognitive radio is still a serious challenge. Most literature on this subject provides the analytical formula of multi-taper based detector, which is useful to a particular extent in spectrum sensing; however, there is a need for simple analytical closed-form terms for numerical evaluations. Considering the above limitations, multi-taper spectral detector is formulated from the probability density function of the normal distribution at higher values of samples. Following Neyman-Pearson criterion the probability of success and false detection are expressed. Using statistical tools for independent random variables, the mean and the variance are derived considering the multi-taper concepts from the beginning. The test statistic of multi-taper, where the sensing decision is executed by comparing it with threshold, is calculated by two equivalent methods. The derived analysis of the mean and variance of the proposed analytical formulas are verified by comparing the final computer-simulated results with the analytical results under different simulation parameters. The results demonstrate that the proposed analytical formulas of the mean and variance are accurate and they are valid to represent the real multi-taper system under different simulation conditions. Adding to this, multi-taper detector surpasses the detection rate of the energy detector by 40%.

Port Said University, Wireless Communication Lab
Research Assistant

Port Said, Egypt
Aug2020-till now

- **Responsibilities:**

- Coordinating with my supervisors to set the research plan and goals.
- Collecting the related literature on the preselected topic from well-known sources
- Analyzing the models mentioned in related literature
- Connecting their analysis and results with the concept of the system
- Define the limitations in the related literature
- Gathering and filtering the essential data to visualize the proposed model
- Developing a suggested solution to the above-mentioned limitation
- Conducting a research experiment to test the suggested model
- Visualizing the obtained results and comparing it with related literature to Interpret its performance
- Reporting each stage to my supervisor
- Documenting the prescribed work to Publicize our results

COURSES & TRAINING

Android Development Track, at UDACITY	Aug 2020
Taking your Classroom Online, DAAD, Zamalek, Cairo, Egypt	June 2020
Academic Writing at Udemy	Jan 2020
Data Science at State University, New York & American Chamber	Aug 2019
TIA Mobility at State University, New York & American Chamber	Jul 2019
Comp TIA+2012 at State University, New York & American Chamber	Nov 2018
IELTS Academic Test Preparation at Edx	Jan 2018

ITIL at CAMPUS, Cairo, Egypt	2017
Learn how to learn at Coursera	2016
Think create a code at Edx	2015
Python programming Language at Coursera	2015
Crafting effective Writing tools at Coursera	2014
Digital Signal Processing at Coursera	2014
Basic Level Lab in Scientific Research at Egypt Scholars Inc	2014
MATLAB at MIT Open Courseware	2014
Linear Algebra at MIT Open Courseware	2014
CDMA & UMTS at JELECOM, Cairo, Egypt	2012
ICDL at Ministry of Education, Cairo, Egypt	2011
JAVA at YAT, Cairo, Egypt	2009

WORK EXPERIENCE

Science Valley Academy, Higher institute for Engineering
Associate Lecturer

Cairo, Egypt
Feb2019 - now

- **Responsibilities:**
 - Founder and responsible for electronic testing at ELearning Unit.
 - Focus on raising the Students' abilities through connecting them to practical issues in conformance to students' strategy, policy and procedures.
 - Build, develop SVA website.
 - Inspecting the process of network installation inside the organization.
 - Develop own teaching materials, methods and approaches, taking into account established or agreed practices where necessary.
 - Supervise the work of students, provide advice on study skills and help them with learning problems.
 - Set and mark assignments and set examination questions as well as assessing the work and progress of students by reference to defined criteria and provide constructive feedback to students.
 - Seek ways of improving performance by reflecting on teaching design and delivery and obtaining and analyzing feedback.

Science Valley Academy, Higher institute for Engineering
eLearning Manager

Cairo, Egypt
Feb2020 - now

- **Responsibilities:**
 - Identify all the main aspects of the eLearning unit.
 - Direct the team to good quality.
 - Distribute tasks among the team.
 - Motivate, direct, assist, manage the team.
 - Regularly, evaluate our process from top managers, staff, and students.
 - Inform the team about their progress and drawbacks.
 - Identify and assess the training needs of the organization through job analysis, career paths, and consultation with managers.
 - Develop individualized and group training programs that address specific business needs.
Effectively communicate with team members, and trainers.

Byan Tech Egypt Technology
Network Technical Engineer

Cairo, Egypt
Nov2012-March2018

- **Responsibilities:**

- Implement, maintain, support, develop and, in some cases, design of communication networks within an organization or between organizations.
 - Set a project proposal in term of (equipment needed, goals, scope, estimated cost and applied service).
 - Select the appropriate product, define its quality and select the suitable vendor's product.
 - Monitor the process of installation for network infrastructure in term of cable pulling, cable termination, fiber termination and testing.
 - Ensure the integrity of high availability network infrastructure to provide maximum performance for their users.
 - Maintain technical relationships with client account contacts through consistent communication on new developments.
 - Establish initial relationship with new customers via Email, phone and external meetings for initial requirement capture.
 - Regularly update job knowledge by participating in educational opportunities, reading professional publications, maintaining personal networks.
 - Participate in the marketing process.
- **Projects:**
 - Passive Optical Network (PON Technology)
 - Air Blown Fiber (ABF Technology)
 - Local Area Network (LAN) & Wide Area Network (WAN)
 - Data Center Solution
 - Intelligent Passive Network Solution.
 - Intelligent vehicle tracking system.

MET Academy, Miser Higher Institute for Engineering & Technology
Teaching Assistance

Mansoura, Egypt
Oct2011-June2012

- **Responsibilities:**
 - Focus on raising the Students' abilities through connecting them to practical issues in conformance to students' strategy, policy and procedures
 - Develop own teaching materials, methods and approaches taking into account established or agreed practices where necessary.
 - Supervise the work of students, provide advice on study skills and help them with learning problems.
 - Set and mark assignments and set examination questions as well as assessing the work and progress of students by reference to defined criteria and provide constructive feedback to students.
 - Seek ways of improving performance by reflecting on teaching design, delivery, obtaining, and analyzing feedback.

SKILLS

- **Good command of: (Windows / MS-Excel / MS-Word / MS-PowerPoint/ MS-Visio).**
- **Java Programming Language.**
- **MATLAB Coding and Simulink.**
- **LATEX Editing Tools.**
- **Camtasia Studio, recording and editing Voice tools.**
- **HTML**
- **WordPress**

VOLUNTEERING ACTIVITIES

Social Activities, Ahalliena Charity.
Volunteer

Damietta, Egypt
2011-2014

- **Responsibilities:**

- Instruct children and adults about general cultural or school curriculum
- Organize and coordinate periodical events
- Member in cultural committee
- Prepare foods for needy

PERSONAL VALUE

Team Work, as I manage to communicate and coordinate with my colleague to keep the progress which needs a dedicated discipline to keep track of my plans.

Handling criticism is very important aspect to keep me positive and trustworthy to efficiently perform my responsibilities for plan execution and utilize patience till the process end. I like to provide innovative idea to develop the solution in hand using the analytical skills to connect all points to its related concepts through implementing theoretical ideas into practical models.

REFERENCE PEOPLE

Prof. Moustafa Hussien Aly, drmosaly@gmail.com

Prof. Waheed Sabry, admin@infomesr.org

Prof. El-Sayed M. El-Rabaie, srabie1@yahoo.com

Assoc Prof. Heba Yousef, hebayms1@yahoo.com

HOBBIES

Internet surfing.

Certificates will be submitted upon request.

Thank you for reading and looking forward to meeting you soon.